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Information systems that support effective clinical decision making

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Title: Using information to improve patient care

Abstract:

This is the second segment in a series of four articles looking at the role of information and its management across health and social care provision. Here the authors describe the key role of information in delivering professional nursing care and note the importance of structured nursing content in electronic records to support modern health and care services. The article provides examples of effective use of information systems that support nurses in accessing information for clinical decision-making. It critiques the information needs of future service users and reflects on the support and training that nurses need to operate in an integrated health and care service. It concludes by arguing the nurse managers have a pivotal role in making their staff ready to accept a new advocacy role, one which supports patient empowerment through effective management of information.

Information and optimal Nursing Care:

The origins of the term 'information' is derived from the Latin word 'Informare', which means to *fashion, shape or create, to give form*¹. Information is thus a concept that has been given a form such as the spoken or written word and by so doing it enables an image or thought to be communicated from one person to another. Effective communication is at the heart of professional nursing care as we strive to assess, capture and share information concerning patients' health and care needs or concerns. We also help service users to make sense of what is happening to them in an attempt to empower our clients and assert their role as true partners in decision making regarding own care.

As noted in the previous article in this series (ref), an information system that manages effective communication can be a paperless or paper base mechanism that assembles, stores, processes and delivers relevant information to a user. In the healthcare arena users include patients, carers, the health and care teams, administrators, managers, researchers and so forth. Information systems used within the sector contain mainly records of human activity and enable us to refine the way we think about our patients and their needs, the way care is provided and evaluated, as well as the way nursing knowledge is created, captured, shared and applied.

In the last 30 years the availability of digitised information has increased dramatically due largely to the advent of cheaper and sophisticated Information and Communication Technologies (ICT) with copious memory capacity and computation power. The cost of collating information has dropped dramatically and within the health and care services, the task of collecting data has become integral to core patient or service user processing mechanisms. This digital revolution has enabled cheap and structured information to become a highly valued currency in the pursuit of effective, efficient and transparent healthcare service that in Britain of the 21st century people expect and demand.

¹ <http://en.wikipedia.org/wiki/Information>

By virtue of being the largest group of healthcare professionals, nurses, health visitors and midwives record and generate most of the information that is used to maintain and improve patient care. Indeed, nursing professionals deliver and manage patient care through continuous interaction with patients, their families and other members of the multidisciplinary team. We assess the holistic care needs of our patients and formulate care plans that could, when appropriate, be shared with others. We continually review patients' recorded information and add observations and care outcomes to their record. We monitor instruments that report on patients' condition, carry out tests and review the results of investigations performed by others. Indeed, managing information and effective communications is one of the core principles of nursing practice (Casey and Wallis 2011), which must be mastered by all professionals who strive to improve patient care.

What information system do we need?

Realising the critical role of information in supporting improved patient care and outcomes, it is clear that the information system we need is one that provides easy access to evidence-based and up to date information. This system must offer us access to information that is relevant to the problems of the patients we are seeing, in an easily accessible format and at the time and place that we need it. It should also enable us to update records quickly and efficiently whilst retaining a capacity to audit and monitor changes. Critically, the system must fit with our nursing practice and be able to capture and present nursing content that enhances the unique nursing contribution to an agreed care pathway (see box 1).

[box 1: core information segments to support nursing decision making and optimal care delivery include: Results of assessments; Identified nursing problems (nursing diagnoses); Nursing decisions made; Care planned and provided; Communications with patient, carers, and other professionals; Expected and actual outcomes; Patient views, expectations and preferences].http://www.rcn.org.uk/_data/assets/pdf_file/0005/328928/003596.pdf

We argue that an effective information system not only improves the service for users but also acts to enhance the professional element of those who are often described as the closest to the patients and their carers. Moreover, it is suggested that the system may also eliminate the risk of 'tick box nursing', one that disregards the individualised requirements of the patients we are seeing.

A good example of an information system that is used to support nursing care is the GRASP-AF (Guidance on Risk Assessment and Stroke Prevention for Atrial Fibrillation) system used in England (<http://www.improvement.nhs.uk/graspaf/>)

The Primary Care record provides a rich source of information, often collected by nurses working in the practice during direct encounters with their patients. The NHS Improvement GRASP-AF tool was initially

developed by the West Yorkshire Cardiovascular Network, the Leeds Arrhythmia team and PRIMIS. The tool was developed in conjunction with NICE guidelines and expert consultation, and aims to improve the management of patients with Atrial Fibrillation (AF) by reducing the risk of associated stroke. Using data collected during patient consultations, the GRASP-AF tool enables practices to identify patients at high risk of stroke and take appropriate action. The tool provides links to advice files and evidence-based information sources in a variety of formats. PRIMIS also produces a tool to assist in the validation of AF registers to ensure all patients are correctly identified as having AF. Aggregate data can be sent to the PRIMIS CHART Online tool which enables comparative analysis and benchmarking at a number of levels. Over 1600 practices have successfully uploaded data to CHART Online which has created a substantial repository of stroke related information providing essential information on stroke treatment at local and national levels.

This case study demonstrates the ability of the primary care record to support nurses in accessing information for decision-making. Nurses capture data at the point of care and can view this alongside historical data. The use of coded, structured records makes it possible to view multiple elements of a patient history, which is particularly important in reviewing patients with long term conditions. The availability of audit tools such as GRASP-AF provides all members of the practice team with the ability to review patient care for particular conditions and agree appropriate action with reference to a variety of sources of relevant information.

Information, sharing and future service provision

The future of an integrated, effective and efficient health and care services, which offer optimal person centred care, is dependent on active 'sharing'. Sharing of knowledge, decisions and their rationale and sharing of responsibility to minimise risks as well as the commitment to improved quality of care. Effective information management is critical for this shared vision and everyone, including front line staff, managers and patients themselves should have access to relevant information.

Indeed, the new NHS Health Bill and Government transparency agenda aim to establish openness and enable patients to have greater involvement in, and control of, their own healthcare (GB 2012, HM Government 2011). Government strategy includes plans for patients in England to have access to electronic general practice records by 2015. Elsewhere in the UK plans are underway to enable patients some access to the clinical portal (Scotland) or to 'My Health Online' (Wales).

Yet, concerns have been expressed that patients may require support to fully understand the content of their medical record (RCGP 2010). It is further suggested that the service most likely to be affected by influx of queries is primary care. Specifically, the role of the Practice Nurse is likely to be perceived as the most accessible to patients and thus they are most likely to be asked for help. In this context it is important to note that whilst online record access may provide opportunities for discussions about health

and care, nurses will need support and training to be prepared for the types of questions patients may bring along to them. Managers should be mindful that patients may be as eager to discuss security and confidentiality issues as they are to understand and manage their own healthcare. For that reason it will be essential to include nurses in discussions about how to implement record access in any future configuration of services.

Nevertheless, evidence suggests that service users' involvement in decision-making improves healthcare outcomes (The NHS Confederation 2012). It is also known that in general patients want choices about what treatments and care they can have, where they are seen and by whom, and how they are treated. Underpinning this choice 'agenda' is information. Without information there is no real choice and health and social care organisations need to adapt how they communicate and share information with service users and the wider public (ibid).

Understanding patients' information need is critical for managers who wish to establish proactive and preventative services that foster user involvement and active participation of patients in their care (see Box 2). However, accurate and reliable information to address patients' needs is not always available or not available in a medium, format or language that people want. Inaccurate and unreliable information can have a negative impact on people's health and even cause harm to patients and to their therapeutic relationship with a trusted healthcare provider. Yet, many more people nowadays turn to the unregulated Internet as a first port of call when seeking information about the possible cause and treatment options to symptoms they may experience.

Box 2 Patients need information to:

- Understand what is wrong
- Gain a realistic idea of prognosis
- Make the most of consultations
- Understand the processes and likely outcomes of possible tests and treatments
- Assist in self care
- Learn about available services and sources of help
- Provide reassurance and help to cope
- Help others understand
- Legitimise seeking help and their concerns
- Learn how to prevent further illness
- Identify further information and self help groups
- Identify the "best" healthcare providers

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1114785/>

A study that reviewed the use of information on the web for parents (Sim et al 2007) concluded that health professionals must engage much more with the issue of poor information quality on the internet. The authors argued that the best way to ensure patients don't access poor quality or inaccurate on-line information is for health

professionals to act as information brokers and guide users to high quality web resources. A number of resources are available to critique the accuracy; quality and authority of health related websites (see Box 3) and these could be used by nurses in their role as information brokers.

Box 3 list of available resources

http://www.minervation.com/mod_product/LIDA/minervalidation.pdf

http://www.intute.ac.uk/healthandlifesciences/BIOME_Evaluation_Guidelines.doc

<http://www.chu-rouen.fr/netscoring/netscoringeng.html>

Concluding note

In view of the importance of using and managing information effectively, to improve patient care, nurse managers have a critical role in making their staff 'ready' for immanent changes. They should facilitate and enable nursing colleagues to acquire the knowledge and skills required to operate successfully in what was described by Procter and Woodburn [article 1] as an information intensive industry.

However, we argue that nurses should do more than excel in using relevant and timely clinical information, in a critical and effective fashion, to support competent nursing decision making. We believe that nursing professionals should actively engage in seeking to assert their role as health information advocates and enable their patients and peers to benefit from rich information resources freely available to all citizens. By gaining the knowledge and skills and by having access to the right tools, nurses can inform, engage and empower patients to use information appropriately and take much more of an active role in enhancing their health and care needs in the future.

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Article Two: Using information to improve patient care Sharon Levy & Barbara Hayes

The NHS Confederation (2012) "Alive and clicking: information that benefits all

Available:

http://www.nhsconfed.org/Publications/Documents/uneasy_consensus_Alive_and_clicking_May2012.pdf [Accessed 20/06/12]